

The future of wastewater treatment – novel technologies in smart schemes

Summary

The increasing interest on resource recovery coincides with the development of new technologies for wastewater treatment. Conventional wastewater treatment plant configurations are being revisited in order to come up with innovative process schemes which incorporates these new technologies. The design of innovative wastewater treatment process schemes is a hot topic and a promising research area which helps to achieve compact installations with significant reduction of operational costs, more efficient pollutants removal, and increase in energy and nutrient recovery. Through mathematical modelling and simulation, this thesis aims to perform a plant-wide evaluation of innovative wastewater treatment process schemes and objectively compare them with that of a conventional wastewater treatment plant configuration.

This master thesis topic is part of a EU-funded project based on research excellence, in close collaboration with industry.

Relevant to: Bio-engineer Environmental Technology, Bio-engineer Chemistry and Bioprocess Technology

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Keywords: wastewater treatment, modelling, plant-wide simulation, innovative process schemes, CAPTURE

No obligatory initial competences.

Subject assigned to 1 or 2 students.

